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ABSTRACT

In 1995, the Lexington County, South Carolina School District 2 began implementing their "Technology Task Force Position Statement" for effectively incorporating technology into the curriculum. This transformed Springdale Elementary School's computer ownership from a few Apple II-E computers for the entire school to one with as many as four Pentium (TM) multimedia personal computers equipped with Internet access and color ink jet printer per class. Implementation began with the philosophy: (1) technology should support district educational goals, (2) technology should provide a platform for student access and advancement in curricular areas, (3) students, faculty members and staff should communicate effectively with each other and enhance information accessibility, (4) the appropriate use of technology should become an integral part of the curriculum, (5) schools should prepare students for the 'world of work' that is driven by technology, and (6) minimum technology standards should be developed for all district schools. This paper describes the roles of managing and implementing this technology change as played by principal, vice principal, media specialist, teachers and students. Also outlines how parents and the community can benefit from the implementation and integration of technology. Basic objectives and principles for effective technology implementation are listed in the conclusion. (AEF)

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Implementing Technology at Springdale Elementary School:

A Case Study

May 5, 1997

Curtis R. Rogers

"For technology to become an integrated aspect of education, the focus must not be on technology itself, but on the information it enables students, teachers, and administrators to access and process." - Lewis A. Rhodes

Introduction

Springdale Elementary School (Lexington County, South Carolina, School District 2) is a neighborhood school serving 410 students in grades K-5. Significant renovations in the summer of 1994 have made the school an inviting environment for learning. Springdale operates with basically self-contained classes and students are assigned to classes heterogeneously by reading groups. Teachers are given as much input as possible in class grouping making the process a team effort. Changes in staffing have come from teacher retirement making the staff a mix of mature and new teachers who are at the early stages of their teaching career. I

Facts

A little over 4 years ago, Springdale Elementary School had only a few Apple II-E computers for the entire school. Today, every classroom has anywhere from one to as many as

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four Pentium(tm) multimedia personal computers equipped with direct Internet access and a color ink jet printer.

In 1995, the Lexington County (SC) School District 2 began implementing their "Technology Task Force Position Statement" with the philosophy that:

- technology should support district educational goals
- technology should provide a platform for student access and advancement in curricular areas
- students, faculty members and staff should communicate effectively with each other and enhance information accessibility
- the appropriate use of technology should become an integral part of the curriculum
- schools should prepare students for the 'world of work' that is driven by technology
- minimum technology standards should be developed for all district schools. 2

An obviously well thought through set of philosophies has transformed the Springdale Elementary School into a well-equipped environment for learning.

Managing and implementing this level of technology change includes everyone at the school: Principal, Vice Principal, Media Specialist, Teachers and Students.

Principal's Role

Dr. Thomas Smith, the school's principal who is essentially the chief executive officer and chief financial officer agrees³ with Lewis A. Rhodes' assertion that, "for technology to become an integrated aspect of education, the focus must not be on technology itself, but on the information it enables students, teachers and administrators to access and process. ⁴

Interestingly, Dr. Smith does not have a personal computer on his desk. He is fully cognizant of the personal computer's importance as both a communication and learning tool but does not feel a need to have one at his immediate disposal. Because of this, Dr. Smith is aware of the minor displacement at which this places him but conveys a full understanding of how technology is being used to better student's learning as well as the teacher's role as educator which is paramount in his position as the school's leader. Simply stated, "for technology-based change to work in a school, the principal has to develop an understanding of the technology, know the school's instructional and organizational processes inside out, and have the leadership and political skills to manage the change process." ⁵ These management factors are clearly evident at Springdale.

"Change can be good and bad," ⁶ Smith states but logically explains in that any change, whether it be technological, physical or curricular in nature, if well thought through and analyzed, it can better the learning process. I hold the similar belief that if a proposed change is in the best interests of the children, tax payers of the community and parents, it can be a good change.

Technology that supports the curriculum is another idea on which Dr. Smith places great importance. Technology programs that are more directly related to the curriculum and create the interactivity component, which is appealing to the majority of children in today's technology-driven society, can produce a learner eager to explore new ideas.

Teacher training is an extremely significant component to the technology change process. A great deal of time must be placed on instructing the teachers on the uses of technology in the classroom. If the teachers do not know how to utilize and integrate new technology into the classroom, then the students will have no exposure to the available technology. However, if self-motivated, the teacher, sometimes with the help of an ambitious and already knowledgeable student, can learn basic personal computer and Internet functions. Access to technology, both for the teacher and student, is significant. "When access to computers has been sufficient, the results have been positive for student learning."⁷

Vice Principal's Role

Miley Hall Rhodes is an advocate of change and agrees that "change is a process, not an event".⁸ As vice principal, she has to be the 'cheer leader' when it comes to supporting and implementing change. Springdale's administration appears to be strong and supportive of new technologies in that each is aware of what the other's role is in implementing change.

As a result of the impact of technology on the school and community, Ms. Rhodes is working on a 'computer night' program.⁹ The 'computer night' is an after-school program in the concept stage where from 4:30pm to 7:00pm, parents and students would be able to come into the school's classrooms and media center to see what kind of work students have been doing utilizing the Internet as a learning tool. This would let parents and other members of the community who do not have immediate access to the Internet, see how technology can be a useful and important part of the learning process.

Media Specialist's Role

Penny Hayne, Springdale's media specialist, has a role that has completely changed in the last four years. Not only has Ms. Hayne been involved in the automation of the school's library, but she has also seen her role as the media specialist evolve into that of a school-based technology coordinator allowing her to be a change agent for technology.¹⁰ Ms. Hayne affirmed that the technology change process is not limited to the installation of hardware and software of computers. The Internet, satellite programming and instructional videocassette management has progressed this media specialist's role geometrically.

Ms. Hayne's knowledge of the specifications of most every piece of technology-related instructional aid in the school makes her the perfect agent for change and places her at the heart of the change process. This has taken much time and effort on her part. Not only is self-motivation the key to being open to new ideas and implementing them, but the ability to also read a software manual and understand it is more than just a necessity.

Strategies for the acceptance and flow of the technological change process must be carried out by all managers. 11 Self-motivation, eagerness to learn about new technologies and creating technology-related curriculum supplements for teachers are some of the strategies Ms. Hayne uses to promote and implement technology.

Teacher's and Student's Role

Teachers and students at Springdale work together to create the technology change. Teachers are using technology, some more than others, to enhance student learning in all areas. In the classroom, the Internet is used as a tool to create research skills at the upper level grades. In earlier grade levels, CD-Rom technology is being used to build the essential reading and math skills required by the curriculum.

Upon entering an active classroom at Springdale, I noticed that some students were paired at a computer workstation helping each other with keyboard functions. Indirectly, they were reading on-screen instructions, learning typing skills, and building other problem-solving skills related to using a computer to write a simple paper on a word processor. The mostly self-taught teacher, instructed children to press the key sequence, Atl-P to print within a specific software.

Students who are able to embrace and accept change much easier than adults are also teaching the teachers. With the problem-solving skills they are learning using a computer, they

are able to discover new functions and ways of accessing information and then pass those along to their teachers, in effect, training the teacher. A cooperational learning process is born.

External Forces

Parents and the entire community can benefit from the implementation and integration of technology at Springdale. Creating a 'new breed' of learner with greater problem-solving skills can prepare a child to excel in academics which better prepares them for the future working world.

Private corporations are noticing the change technology has upon young learners and as a result, donate hardware and software to Springdale. This benefits the community and assists in accomplishing the goals of the school's and district's technology plan. Producing a future society of technologically adept workers is in everyone's best interest.

"Change is a process, not an event." 12

The cost of technology implementation is directly managed by Dr. Smith who must deal with the district's and state's budgeting process. Since the rising cost of technology is seemingly inevitable, the budgetary process allows for this rise, therefore, not much concern is voiced with regard to it.

The dominant concern of almost everyone in the position of change at Springdale is time and teacher training. The available time for teacher training is a major factor in accomplishing the technology change process. The recent absence of a district technology coordinator has hindered the change process and is impeding its outcomes. All stakeholders show a genuine concern for continued teacher training, especially those on the front lines.

Since a technological change takes place so quickly, everyone's role is immediately effected by the change thus allowing change to be observed as a process and not an event. All involved in the change process at Springdale view change in different manners. The administration view change as a challenge and show great concern with regard to implementation. The front lines view change in today's information age as a regular process. Obvious to them, change in any form is a sink or swim situation.

Conclusion

Following some basic principles of change, managers of the technology implementation process should keep the following in mind:

- develop systematic processes
- manage the equilibrium of the organization
- determine whether enough energy within the organization exists for the process
- analyze the size of the change effort
- manage the stakeholder commitment by identifying the individuals

- involved and the perceived benefits for all
- recognize that the process requires an advocate or 'cheer leader' for coaching and counseling
- develop models for responses to change
- periodically review the change that has taken place. 13

This model for managing the change process appears in place at Springdale.

For the process of change to take place, all involved must allow for bumps along the path to success. At Springdale Elementary School, the bumps are examined, worked around, dug out of the road and paved. I know that prosperity for the school will continue with the fine group of people who are there managing and planning for change. If only all schools could work together as a team like Springdale, the change process could better every student's future making the future promising for us all.

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